



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/922,412	08/03/2001	Robert W. Cantwell	5624.24-2	7272
23559	7590	09/02/2005	EXAMINER	
MUNSCH, HARDT, KOPF & HARR, P.C. INTELLECTUAL PROPERTY DOCKET CLERK 1445 ROSS AVENUE, SUITE 4000 DALLAS, TX 75202-2790			ROBERTS, BRIAN S	
			ART UNIT	PAPER NUMBER
			2662	

DATE MAILED: 09/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/922,412		CANTWELL, ROBERT W.	
	Examiner		Art Unit	
	Brian Roberts		2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

- Applicant's Amendment filed 07/26/2005 is acknowledged.
- The previous objection to the drawings is withdrawn.
- Claims 1-22 have been examined.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 6, 8-13, 16-19, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Russell et al. (US 6496519) in view of Baun et al. (US 6771673)
3. Russell et al. teaches in Figure 9, an Ethernet switch (904) receiving data from a plurality of Ethernet ports (claim 1, 2, 9, 10, 17, 18 – Switch receiving data from Ethernet ports) connected to a synchronous terminal multiplexer (903). Russell et al. teaches the synchronous terminal multiplexer being a SONET multiplexer (column 7 lines 1-2) that uses time division multiplexing to multiplex the data into a serial data stream into a SONET optical signal for transport over an optical fiber communications link (claim 1, 4, 7, 9, 13, 15, 17, 21 – multiplexer converts serial data stream into a SONET optical signal) (Figure 1, column 6 lines 5-13, column 7 lines 6-21). Russell et al

Art Unit: 2662

teaches an SDH or SONET (column 6 lines 48-64) payload mapper 204 for mapping of the Ethernet frames into one or more SDH or SONET payloads. (claim 3, 11, 17 – multiplex data from ports into a single SONET synchronous payload envelope) (column 7 lines 40-43)

Russell et al. does not teach using a switch to insert a unique port identifier in the header or the VID data field of a tagged MAC frame of the data from each port to identify the source port of the data. Russell et al. does not teach routing the data via the unique port identifier, a MAC address and IP address in the data. Russell et al. does not teach using a subscriber access multiplexer operable to receive the single serial data stream.

Baun et al. teaches “aggregating physical connections from customers presentation to an access router and de-aggregating traffic from a shared link(s) from the access router. Ports of an aggregation unit may be configured such that each has a unique identifier in the place of information (e.g., the layer 2 address) originally in the layer 2 header.” (abstract) “When a packet is received from a customer, information in the layer 2 header is changed to a unique identifier assigned to a logical port or interface associated with the physical port. When a packet is received from the access router, it is placed on the port assigned to the logical port associated with the destination layer 2 address” (claim 1, 9, 15, 17, 21 – insert a unique port identifier in the header of the data from each port to identify the source port of the data). (Figure 13, abstract) Baun et al. teaches inserting the port identifier “in a form of an existing layer 2 (e.g., MAC) address or some other unique bits (or context information) in the place of,

Art Unit: 2662

or in addition to the layer 2 address.” (claim 6, 12, 19 - insert the unique port identifier into the a VID data field of a tagged MAC frame) (column 15 lines 56-60, Figure 13)

Baun et al. teaches using the unique port identifier, a MAC address, and an IP address in the data to route the data. (claim 5, 7, 8, 14-16, 20-22 – route data via unique port identifier, a MAC address and IP address in the data) (Figure 30, column 19 lines 4-36)

Baun et al. further teaches the use of an ATM port switch for routing and a digital subscriber access multiplexer to inherently receive the data stream from another multiplexer. (column 7 lines 17-32) (claim 5, 7, 8, 14, 15, 20, 21 – subscriber access multiplexer operable to receive the single serial data stream from multiplexer)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the equipment and method of Russell et al. by using a switch to insert a unique port identifier in the header of the data frame, using a digital subscriber access multiplexer to receive the single serial data stream, and using the unique port identifier, a MAC address, and an IP address in the data to route the data. Inserting the unique port identifier and then using it along with the MAC address, and an IP address would allow for a more efficient use of bandwidth when transmitting data over a SONET having a plurality of frame based data customers and would allow data from the destination to be more efficiently routed through the network back to the source. Furthermore, it is known in the art for a subscriber access multiplexer to receive a single serial data stream consisting of multiplexed frame based data in a SONET/Ethernet environment.

4. Claims 5, 7 14, 15, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Russell et al. (US 6496519) in view of Baun et al. (US 6771673), as applied to the parent claims, and further in view of Hayward et al. (US 6222848)

The combination of Russell et al. and Baun et al. as discussed in section 4 above shows the limitations claimed except for Russell e al. and Baun et al. do not teach the complete method of using a subscriber access multiplexer at a SONET node to receive the serial data from the multiplexer at another SONET node and demultiplexing the serial data stream into data for each port.

Hayward et al. teaches receiving SONET payloads inherently using a subscriber access multiplexer transported over a SONET channel through optical fiber from SONET nodes at another SONET node (claim 5, 7, 14, 15, 20, 21 – subscriber access multiplex receiving serial data stream from multiplexer) (Figure 2, column 4 lines 22-40) and removing the Ethernet data packets from one or more SONET payloads inherently involving demultiplexing the payload envelope (claim 5, 7, 14, 15, 20, 21 – demultiplexing the serial data stream into data from each port) (column 4 lines 66-67, column 5 lines 1-5).

It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the combination of Russell et al. and Baun et al. to include the method of using a subscriber access multiplexer at a SONET node for receive the serial data from the multiplexer at another SONET node and demultiplexing the serial data stream at the destination SONET node. This would have allowed for the framed based data transmitted over the SONET to be efficiently received at the destination

SONET node and demultiplexed from the SONET payload envelope so it could be switched to the appropriate port within the network.

Response to Arguments

5. Applicant's arguments filed on 07/26/2005 have been fully considered but they are not persuasive.

- The Examiner assumes that the Applicant's argument is directed towards Independent claims 1, 9, and 17. In the Remarks on pg. 9, the Applicant contends that Russell et al. does not teach mapping frames from multiple ports into a single data stream for mapping into a frame of a synchronous link. Furthermore, the Applicant contends Russell et al. teaches away from inserting a unique port identifier in the head of the Ethernet frames and multiplexing the frames into a single stream.
- The Examiner respectfully disagrees. It is the position of the Examiner that in Figure 9, Russell et al. teaches the Ethernet router (904) receiving data from a plurality of workstations, each inherently containing a port, over a plurality of 10 Mbits/s links and sending the data over a single data stream to a synchronous digital multiplexer (903) for transportation over the SDH network (900). Furthermore, it is the position of the Examiner that Russell et al. does not teach away from an Ethernet router being operable to insert a unique port identifier in the head of an Ethernet frame. The combination of Russell et al. and Baun et al. teaches a system where a unique port identifier can be

inserted in the head of Ethernet frames at or before the Ethernet router (904) to identify the ports of the workstations. Inserting a unique port identifier does not contradict the system of Russell et al. where the synchronous digital multiplexer (903) transmits the frames over the SDH network (900).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure

- Chaudhuri et al. (US 6862380) teaches an optical switch to that inserts the port id into the signal overhead before it is sent to the multiplexer.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

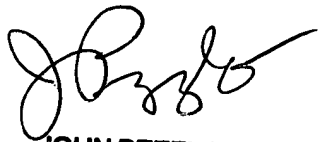
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Roberts whose telephone number is (571) 272-3095. The examiner can normally be reached on M-F 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BSR
08/30/2005


JOHN PEZZLO
PRIMARY EXAMINER